

Amendments To The Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-13. (Cancelled)

Claim 14. (New) An apparatus for rectification of liquid mixtures or for scrubbing of gases, said apparatus comprising

an elongated processing chamber extending in a substantially horizontal direction,

means for supplying liquid into the processing chamber at a first end thereof, means for discharging liquid from the processing chamber at an opposite second end thereof,

liquid application means including extending along at least a major part of the length of the chamber for repeatedly throwing supplied liquid transversely to the longitudinal axis of the processing chamber,

means for supplying gas into the processing chamber at said second end, and

means for discharging gas from the processing chamber at said first end so as to obtain a generally counter-current movement of liquid and gas through the processing chamber,

wherein the liquid application means comprise a rotor defining liquid collecting pockets or chambers having a U-shaped cross-section, and opening in direction of rotation, and being adapted to throw the liquid from said opening so as to form rotating carpet-like patterns of droplets extending from the outer edge of the opening of each said pocket or chamber towards the inner wall of the processing chamber.

Claim 15. (New) An apparatus according to claim 14, wherein the rotor is made from a tubular body, and the U-shaped pockets or chambers extend longitudinally and are mounted to the outer surface of the tubular body.

Claim 16 (New) An apparatus according to claim 14, wherein the processing chamber is defined by a peripheral wall and a pair of opposite end walls, at least one of the end walls comprising a releasable end wall part covering an opening, which is defined in the upper part of the end wall, said opening having dimensions sufficient to allow insertion of guide plates into the chamber through such opening.

Claim 17 (New) An apparatus according to claim 14, wherein the releasable end wall part is in the form of a cover with a flange connected to the end wall by screws or bolts.

Claim 18 (New) An apparatus according to claim 14, wherein the processing chamber is divided into interconnected sections or stages by means of a plurality of guide plates each extending across a major part of the cross-section of the processing chamber, the guide plates being formed and arranged so as to force gas flowing from the gas supplying means of the gas discharge means to follow a tortuous path and to flow in the opposite, transverse directions.

Claim 19. (New) An apparatus according to claim 18, wherein the inner peripheral wall of the processing chamber comprises means for releasable fastening said guide plates at any of axially spaced, predetermined positions.

Claim 20. (New) An apparatus according to claim 19, wherein the releasable fastening means comprises annular flanges fastened to and extending radially inwardly from said inner peripheral chamber wall.

Claim 21. (New) An apparatus according to claim 14, wherein the liquid application means further comprise the bottom part of the processing chamber, which at opposite ends

thereof is in communication with the liquid supply means and the liquid discharging means, respectively, at least the lower part of the rotor dipping into liquid collected at said bottom part.

Claim 22. (New) An apparatus according to claim 21, wherein the liquid application means comprise a liquid receiving chamber or channel for receiving liquid flowing downwards along the inner peripheral wall of the processing chamber, the receiving chamber communicating with the bottom part of the processing chamber via an adjustable, longitudinally extending opening or slot.

Claim 23. (New) An apparatus according to claim 22, wherein the liquid receiving chamber is defined between the peripheral inner wall of the processing chamber and a flap or plate member being pivotal about a longitudinal axis so as to allow adjustment of a space defined between the lower edge of the flap member and the adjacent part of the inner wall of the processing chamber.

Claim 24. (New) An apparatus according to claim 14, wherein at least some of the guide plates define or comprise conduits for a heating or cooling fluid.

Claim 25. (New) An apparatus according to claim 14, further comprising conveyor means for removing solid matter separated in the processing chamber from the bottom part thereof.

Claim 26. (New) An apparatus according to claim 25, wherein the conveyor means comprise a screw conveyor including a cylindrical housing communicating with the lower part of the processing chamber.

Claim 27. (New) An apparatus for rectification of liquid mixtures or for scrubbing of gases, said apparatus comprising

an elongated processing chamber extending in a substantially horizontal direction,

means for supplying liquid into the processing chamber at a first end thereof,

means for discharging a liquid from the processing chamber at an opposite, second end thereof,

liquid application means arranged at the bottom of the processing chamber and extending along at least a major part of the length of the chamber for repeatedly throwing supplied liquid transversely to the longitudinal axis of the processing chamber,

means for supplying gas into the processing chamber and means for discharging gas from the processing chamber so as to obtain a generally counter-current movement of liquid and gas through the processing chamber,

the liquid application means comprising an bottom part of the processing chamber extending axially along the lower part of the processing chamber and having opposite ends,

the liquid application means comprising a liquid receiving chamber or channel for receiving liquid flowing downwards along the inner peripheral wall of the processing chamber, the receiving chamber communicating with the bottom part of the processing chamber via an adjustable, longitudinally extending opening or slot,

wherein the liquid receiving chamber i.e. defined between the peripheral inner wall of the processing chamber and a flap or plate member being pivotal about a longitudinal axis so as to allow adjustment of a space defined between the lower edge of the flap member and the adjacent part of the inner wall of the processing chamber.

Claim 28. (New) An apparatus according to claim 27, wherein the processing chamber is defined by a peripheral wall and a pair of opposite end walls, at least one of the end

walls comprising a releasable end wall part covering an opening, which is defined in the upper part of the end wall, said opening having dimensions sufficient to allow insertion of guide plates into the chamber through such opening.

Claim 29. (New) An apparatus according to claim 27, wherein the releasable end wall part is in the form of a cover with a flange connected to the end wall by screws or bolts.

Claim 30. (New) An apparatus according to claim 27, wherein the processing chamber is divided into interconnected sections or stages by means of a plurality of guide plates each extending across a major part of the cross-section of the processing chamber, the guide plates formed and arranged so as to force gas flowing from the gas supplying means of the gas discharge means to follow a tortuous path and to flow in the opposite, transverse directions.

Claim 31. (New) An apparatus according to claim 30, wherein the inner peripheral wall of the processing chamber comprises means for releasable fastening said guide plates at any of axially spaced, predetermined positions.

Claim 32. (New) An apparatus according to claim 31, wherein the releasable fastening means comprises annular

flanges fastened to and extending radially inwardly from said inner peripheral chamber wall.

Claim 33. (New) An apparatus according to claim 32, wherein the opposite ends of the upwardly open bottom part of the processing chamber are in communication with the liquid supplying means and the liquid discharging means, respectively, at least the lower part of the rotor being arranged within the bottom part of the processing chamber.

Claim 34. (New) An apparatus according to claim 27, wherein the liquid application means comprise a rotor defining liquid collecting pockets or chambers opening in the direction of rotation.

Claim 35. (New) An apparatus according to claim 27, wherein at least some of the guide plates define or comprise conduits for a heating or cooling fluid.

Claim 36. (New) An apparatus according to claim 27, further comprising conveyor means for removing solid matter separated in the processing chamber from the bottom part thereof.

Claim 37. (New) An apparatus according to claim 36, wherein the conveyor means comprise a screw conveyor including

a cylindrical housing communicating with the lower part of the processing chamber.

Claim 38. (New) An apparatus for rectification of liquid mixtures or for scrubbing of gases, said apparatus comprising

an elongated processing chamber extending in a substantially horizontal direction,

means for supplying liquid into the processing chamber at a first end thereof,

means for discharging a liquid from the processing chamber at an opposite, second end thereof,

liquid application means arranged at the bottom of the processing chamber and extending along at least a major part of the length of the chamber for repeatedly throwing supplied liquid transversely to the longitudinal axis of the processing chamber and

means for supplying gas into the processing chamber and

means for discharging gas from the processing chamber so as to obtain a generally counter-current movement of liquid and gas through the processing chamber,

the processing chamber being defined by a peripheral wall and a pair of opposite end walls, at least one of the end walls comprising a releasable end wall part covering an opening, which is defined in the upper part of the end wall.

Claim 39. (New) An apparatus for rectification of liquid mixtures or for scrubbing 'of gases, said apparatus comprising

an elongated processing chamber extending in a substantially horizontal direction,

means for supplying liquid into the processing chamber at a first end thereof,

means for discharging a liquid from the processing chamber at an opposite, second end thereof,

liquid application means arranged at the bottom of the processing chamber and extending along at least a major part of the length of the chamber for repeatedly throwing supplied liquid transversely to the longitudinal axis of the processing chamber and

means for supplying gas into the processing chamber and

means for discharging gas from the processing chamber so as to obtain a generally counter-current movement of liquid and gas through the processing chamber,

the processing chamber being divided into interconnected sections or stages by means of a plurality of guide plates each extending across a major part of the cross-section of the processing chamber,

wherein at least some of the guide plates define or comprise conduits for a heating or cooling fluid.

Claim 40. (New) An apparatus for rectification of liquid mixtures or for scrubbing of gases, said apparatus comprising

an elongated processing chamber extending in a substantially horizontal direction,

a liquid supplying device extending to the processing chamber at a first end thereof,

a liquid discharging device extending from the processing chamber at an opposite, second end thereof,

a liquid application device arranged at the bottom of the processing chamber and extending along at least a major part of the length of the chamber for repeatedly throwing

supplied liquid transversely to the longitudinal axis of the processing chamber and

a gas supplying device for supplying gas into the processing chamber and

a gas discharging device for discharging gas from the processing chamber so as to obtain a generally counter-current movement of liquid and gas through the processing chamber,

wherein the liquid application device comprises a rotor defining liquid collecting pockets or chambers having a U-shaped cross-section, said U-shaped cross-section opening in direction of rotation, said liquid collecting pockets or chambers being adapted to throw the liquid from said opening so as to form rotating carpet-like patterns of droplets extending from the outer edge of the opening of each said pocket towards the inner wall of the processing chamber.

Claim 41. (New) An apparatus for rectification of liquid mixtures or for scrubbing of gases, said apparatus comprising

an elongated processing chamber extending in a substantially horizontal direction,

a liquid supplying device extending to the processing chamber at a first end thereof,

a liquid discharging device extending from the processing chamber at an opposite, second end thereof,

a liquid application device arranged at the bottom of the processing chamber and extending along at least a major part of the length of the chamber for repeatedly throwing supplied liquid transversely to the longitudinal axis of the processing chamber

a gas supplying device for supplying gas into the processing chamber and

a gas discharging device for discharging gas from the processing chamber so as to obtain a generally counter-current movement of liquid and gas through the processing chamber,

the liquid application means comprising a bottom part of the processing chamber extending axially along the lower part of the processing chamber and having opposite ends.

the liquid application device comprising a liquid receiving chamber or channel for receiving liquid flowing downwards along the inner peripheral wall of the processing chamber, the receiving chamber communicating with the bottom part of the processing chamber via an adjustable, longitudinally extending opening or slot,

wherein the liquid receiving chamber is defined between the peripheral inner wall of the processing chamber and a flap or plate member being pivotal about a longitudinal axis so as to allow adjustment of a space defined between the lower edge of the flap member and the adjacent part of the inner wall of the processing chamber